

Types of Unemployment

There are three types of unemployment:

- *Frictional unemployment* includes people who are temporarily between jobs. They may have quit one job to find another, or they could be trying to find the best opportunity after graduating from high school or college.
- *Cyclical unemployment* includes people who are not working because firms do not need their labor due to a lack of demand or a downturn in the business cycle. For example, if people are not buying many goods and services, workers are laid off.
- *Structural unemployment* involves mismatches between job seekers and job openings. Unemployed people who lack skills or do not have sufficient education are structurally unemployed.

At full employment, we have frictional and structural unemployment, but cyclical unemployment would be zero. At full employment, the level of unemployment is called the *natural rate of unemployment*.

For each of the following situations, put the appropriate letter before the example.

F if it is an example of *frictional* unemployment.


C if it is an example of *cyclical* unemployment.

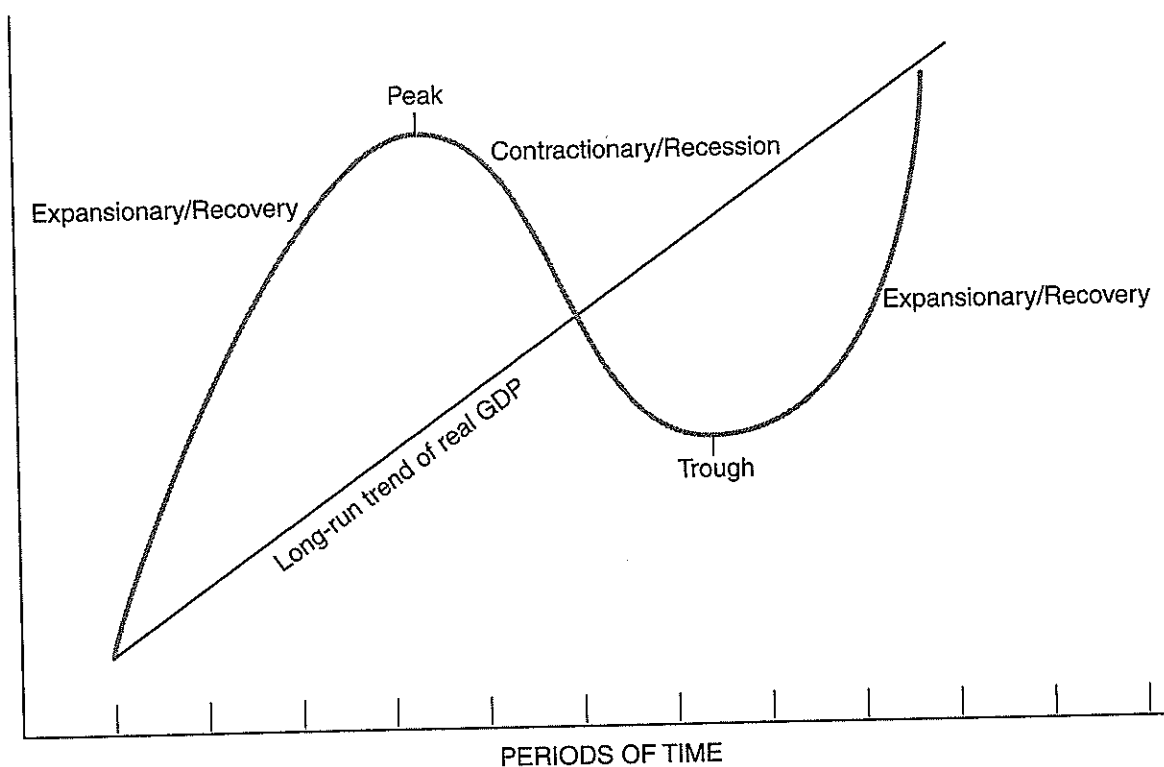
S if it is an example of *structural* unemployment.

- ___ 1. A computer programmer is laid off because of a recession.
- ___ 2. A literary editor leaves her job in New York to look for a new job in San Francisco.
- ___ 3. An unemployed college graduate is looking for his first job.
- ___ 4. Advances in technology make the assembly-line worker's job obsolete.
- ___ 5. Slumping sales lead to the cashier being laid off.
- ___ 6. An individual refuses to work for minimum wage.
- ___ 7. A high school graduate lacks the skills necessary for a particular job.
- ___ 8. Workers are laid off when the local manufacturing plant closes because the product made there isn't selling.
- ___ 9. A skilled glass blower becomes unemployed when a new machine does her job faster.

Activity written by John Morton, National Council on Economic Education, New York, N.Y., and James Spellicy, Lowell High School, San Francisco, Calif.

The Business Cycle

 Figure 17.1
The Business Cycle



The curved line on Figure 17.1 shows a sample business cycle for an economy. The straight line represents the long-run trend of real GDP.

The business cycle can conveniently be divided into four phases:

1. **Expansionary or recovery phase.** Real output in the economy is increasing and the unemployment rate is declining. As the economic expansion continues, inflation may begin to accelerate.
2. **Peak.** Real output, GDP, is at its highest point of the business cycle.
3. **Contractionary or recession phase.** Real output in the economy is decreasing, and the unemployment rate is rising. As the contraction continues, inflationary pressures subside. If the recession continues long enough, prices may actually start to fall, a situation known as deflation.
4. **Trough.** The lowest point of real GDP reached during the business cycle is known as the trough. If the trough is particularly deep, it may be called a depression. A depression is an economic situation where the level of output falls to especially low levels and unemployment climbs to very high levels relative to the historical average. There is no precise decline in out-

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put at which a serious recession becomes a depression. However, most business cycles do not end in a depression. The most recent depression the United States experienced was during the 1930s.

1. Figure 17.2 contains information for the U.S. economy from 1980 through 2001. For each quarter, first identify whether the economy was in an expansionary (E) or a contractionary (C) phase. Go back and pick out the quarters that correspond with a business cycle peak, and mark them with a P. Then find the quarters that correspond with a trough, and mark them with a T. Some of the answers have been provided for you.

Using your answers from Question 1, answer the following questions.

2. How many business cycles did the U.S. economy have between 1980 and 2001? _____
3. In how many quarters was output expanding? _____
4. In how many quarters was output contracting? _____
5. Which expansion looks best to you? Explain.
6. Which contraction looks worst to you? Explain.
7. During quarters in which real GDP fell, what happened to the unemployment rate compared with the previous quarter? Why?
8. Look at the unemployment rate in quarters corresponding to a business cycle peak. Why do you think there was still some unemployment in these quarters?
9. Look at the unemployment rate in quarters corresponding to recoveries. Why do you think the unemployment rate remained high?
10. Based on the years 1980 to 2001, how does the rate of inflation correspond with the business cycle?



Figure 17.2

The U.S. Economy from 1980

Year	Real GDP in 1996 Dollars (billions)	% Change From Previous Quarter	Civilian Unemployment Rate	Inflation Rate (CPI)	Phase of Business Cycle
1980q1	4,958.9	0.33	6.30	3.91	
1980q2	4,857.8	-2.04	7.32	3.67	
1980q3	4,850.3	-0.15	7.68	1.83	
1980q4	4,936.6	1.78	7.40	2.64	
1981q1	5,032.5	1.94	7.43	2.65	
1981q2	4,997.3	-0.70	7.40	2.32	
1981q3	5,056.8	1.19	7.42	2.82	
1981q4	4,997.1	-1.18	8.24	1.44	
1982q1	4,914.3	-1.66	8.84	0.82	
1982q2	4,935.5	0.43	9.43	1.52	
1982q3	4,912.1	-0.47	9.94	1.88	
1982q4	4,915.6	0.07	10.68	0.24	
1983q1	4,972.4	1.16	10.39	-0.07	
1983q2	5,089.8	2.36	10.10	1.26	
1983q3	5,180.4	1.78	9.36	1.18	
1983q4	5,286.8	2.05	8.54	0.90	
1984q1	5,402.3	2.18	7.87	1.12	E
1984q2	5,493.8	1.69	7.48	1.08	E
1984q3	5,541.3	0.86	7.45	1.10	E
1984q4	5,583.1	0.75	7.28	0.73	E
1985q1	5,629.7	0.83	7.28	0.63	E
1985q2	5,673.8	0.78	7.29	1.23	E
1985q3	5,758.6	1.49	7.21	0.71	E
1985q4	5,806.0	0.82	7.05	0.89	E
1986q1	5,858.9	0.91	7.02	0.21	E
1986q2	5,883.3	0.42	7.18	-0.21	E
1986q3	5,937.9	0.93	6.99	0.73	E
1986q4	5,969.5	0.53	6.83	0.55	E
1987q1	6,013.3	0.73	6.62	1.12	E



Figure 17.2 (continued)

Year	Real GDP in 1996 Dollars (billions)	% Change From Previous Quarter	Civilian Unemployment Rate	Inflation Rate (CPI)	Phase of Business Cycle
1987q2	6,077.2	1.06	6.28	1.31	E
1987q3	6,128.1	0.84	6.01	1.15	E
1987q4	6,234.4	1.73	5.87	0.84	E
1988q1	6,275.9	0.67	5.73	0.61	E
1988q2	6,349.8	1.18	5.49	1.26	E
1988q3	6,382.3	0.51	5.49	1.33	E
1988q4	6,465.2	1.30	5.35	1.04	
1989q1	6,543.8	1.22	5.22	1.11	
1989q2	6,579.4	0.54	5.24	1.64	
1989q3	6,610.6	0.47	5.28	0.81	
1989q4	6,633.5	0.35	5.37	0.96	
1990q1	6,716.3	1.25	5.30	1.72	
1990q2	6,731.7	0.23	5.34	1.02	
1990q3	6,719.4	-0.18	5.69	1.73	
1990q4	6,664.2	-0.82	6.11	1.62	
1991q1	6,631.4	-0.49	6.57	0.82	
1991q2	6,668.5	0.56	6.82	0.59	
1991q3	6,684.9	0.25	6.85	0.79	
1991q4	6,720.9	0.54	7.10	0.76	E
1992q1	6,783.3	0.93	7.38	0.70	E
1992q2	6,846.8	0.94	7.60	0.82	E
1992q3	6,899.7	0.77	7.63	0.79	E
1992q4	6,990.6	1.32	7.41	0.71	E
1993q1	6,988.7	-0.03	7.15	0.85	C
1993q2	7,031.2	0.61	7.07	0.77	E
1993q3	7,062.0	0.44	6.80	0.39	E
1993q4	7,168.7	1.51	6.62	0.69	E
1994q1	7,229.4	0.85	6.56	0.64	E
1994q2	7,330.2	1.39	6.17	0.64	E
1994q3	7,370.2	0.55	6.00	0.88	E

UNIT 2 Macroeconomics LESSON 5 ■ ACTIVITY 17 (continued)

* Figure 17.2 (continued)

Year	Real GDP in 1996 Dollars (billions)	% Change From Previous Quarter	Civilian Unemployment Rate	Inflation Rate (CPI)	Phase of Business Cycle
1994q4	7,461.1	1.23	5.62	0.47	E
1995q1	7,488.7	0.37	5.48	0.82	E
1995q2	7,503.3	0.19	5.68	0.88	E
1995q3	7,561.4	0.77	5.66	0.44	E
1995q4	7,621.9	0.80	5.57	0.48	E
1996q1	7,676.4	0.72	5.55	0.91	E
1996q2	7,802.9	1.65	5.47	0.99	E
1996q3	7,841.9	0.50	5.26	0.53	E
1996q4	7,931.3	1.14	5.31	0.72	E
1997q1	8,016.4	1.07	5.23	0.67	E
1997q2	8,131.9	1.44	4.98	0.40	E
1997q3	8,216.6	1.04	4.86	0.40	E
1997q4	8,272.9	0.69	4.68	0.39	E
1998q1	8,396.3	1.49	4.64	0.27	E
1998q2	8,442.9	0.56	4.42	0.54	E
1998q3	8,528.5	1.01	4.53	0.39	E
1998q4	8,667.9	1.63	4.43	0.35	E
1999q1	8,733.5	0.76	4.26	0.39	E
1999q2	8,771.2	0.43	4.26	0.97	E
1999q3	8,871.5	1.14	4.25	0.62	E
1999q4	9,049.9	2.01	4.10	0.62	E
2000q1	9,102.5	0.58	4.02	0.99	E
2000q2	9,229.4	1.39	4.00	1.06	E
2000q3	9,260.1	0.33	4.06	0.80	E
2000q4	9,303.9	0.47	3.97	0.54	E
2001q1	9,334.5	0.33	4.19	0.96	E
2001q2	9,341.7	0.08	4.47	1.04	E

Test Your Understanding of Macroeconomic Indicators

Answer the questions and briefly explain your answers.

1. The unemployment rate and employment both go up. Ellen says that it is not possible for both to rise at the same time. Is Ellen correct or incorrect? Why?
2. True, false or uncertain, and explain why? "Gross domestic product measures the amount of wealth in the economy."
3. True, false or uncertain, and explain why? "A decrease in gross domestic product must reduce a person's standard of living."
4. True, false or uncertain, and explain why? "If nominal GDP increases by 5 percent and the price level increases by 7 percent, real GDP has decreased."
5. True, false or uncertain, and explain why? "In preparing an index of prices, it is important that all commodities entering the index be given equal weight."
6. True, false or uncertain, and explain why? "*Frictional* and *structural* unemployment are two words for the same thing."

Several questions come from Phillip Saunders, *Introduction to Macroeconomics: Student Workbook*, 18th ed. (Bloomington, Ind., 1998). Copyright 1998 Phillip Saunders. All rights reserved. Betty Shackleford, Maconaquah High School, Bunker Hill, Ind., and Kathleen Whitsett, Princeton High School, Cincinnati, Ohio, contributed to this activity.

7. Why does unanticipated inflation help borrowers and hurt lenders?

8. True, false or uncertain, and explain why? "Inflation always increases when unemployment decreases."

9. True, false or uncertain, and explain why? "If the economy is at full employment, the unemployment rate is zero."

10. True, false or uncertain, and explain why? "Seasonal unemployment is a continual worry because some people are out of work on a regular basis."

Inflation Game: Royalty for a Day

Introduction

Prices usually rise over a period of time. The same items you bought a few years ago may cost more now. For example, a restaurant menu lists its finest steak entrée at \$22; however, two years ago the same steak was only \$20. *Inflation* is the term used to describe an increase in the overall level of prices. It's an important concept to understand because it's discussed so frequently in the media: Price indexes and inflation measurements are reported almost daily in the financial pages, politicians constantly announce programs to control inflation and economists endlessly debate inflation's effects on economic growth.

In general, people don't like inflation because higher prices mean they can purchase less for the same income. However, inflation does not affect everyone in the same way. While many people are hurt by inflation, especially when it is unexpected, others may actually benefit.

This activity is designed to teach you the effects of inflation on different segments of the population: Who is hurt by unanticipated inflation and who benefits?

Overview of the Game

This activity is modeled after an ancient (1950s) television game show called "Queen for a Day," in which (women) contestants took turns describing their lives of tragedy, hardship and sorrow. After all had shared their misery, the sympathetic audience voted for the most deserving by applauding. An "applause meter" measured the sound. The winner was crowned "Queen for a Day" and presented with a robe, crown and many prizes. In this modern version, male and female economics students compete for the honor of "Royalty for a Day" by convincing the audience how much they are suffering because of inflation. Your teacher will provide additional information.

Part A

Audience Scorecard

Using the scorecard on the next page, indicate who is hurt or helped by inflation and give the reason why you think so.

Audience Scorecard

Contestant	Gain or Hurt by Inflation?	Reasoning
Priscilla <i>Homeowner / Worker</i>		
Mayor <i>Government official</i>		
Peter <i>Store owner</i>		
Theresa <i>Auto worker / Union member</i>		
Jerry <i>Real-estate developer / Speculator</i>		
Elmer <i>Retiree</i>		
Mr. Sad Class <i>Teacher</i>		
Lucy <i>High school senior</i>		
Bernie <i>Bank president</i>		
Helga <i>Retiree</i>		
Jerome <i>Potential homeowner / Borrower</i>		
Lawrence <i>British businessowner</i>		

Who Is Hurt and Who Is Helped by Unanticipated Inflation?

In Questions 1 through 15 decide which people or groups are hurt by unanticipated inflation and which benefit from unanticipated inflation. Circle the correct response, and explain why you answered as you did.

H means the person or group is *hurt* by unanticipated inflation.

G means the person or group *gains* from unanticipated inflation.

U means it is *uncertain* if the person or group is affected by unanticipated inflation or if the effects are unclear.

1. Banks extend many fixed-rate loans.

H G U

Explain:

2. A farmer buys machinery with a fixed-rate loan to be repaid over a 10-year period.

H G U

Explain:

3. Your family buys a new home with an adjustable-rate mortgage.

H G U

Explain:

4. Your savings from your summer job are in a savings account paying a fixed rate of interest.

H G U

Explain:

5. A widow lives entirely on income from fixed-rate corporate bonds.

H G U

Explain:

Activity written by Betty Shackelford, Maconaquah High School, Bunker Hill, Ind., and Kathleen Whitsett, Princeton High School, Cincinnati, Ohio.

6. A retired couple lives entirely on income from a pension the woman receives from her former employer.

H G U

Explain:

7. A retired man lives entirely on income from Social Security.

H G U

Explain:

8. A retired bank official lives entirely on income from stock dividends.

H G U

Explain:

9. The federal government has a \$5,000,000,000 debt.

H G U

Explain:

10. A firm signs a contract to provide maintenance services at a fixed rate for the next five years.

H G U

Explain:

11. A state government receives revenue mainly from a progressive income tax.

H G U

Explain:

12. A local government receives revenue mainly from fixed-rate license fees charged to businesses.

H G U

Explain:

13. Your friend rents an apartment with a three-year lease.

H G U

Explain:

14. A bank has loaned millions of dollars for home mortgages at a fixed rate of interest.

H G U

Explain:

15. Parents are putting savings for their child's college education in a bank savings account.

H G U

Explain:

16. What conclusions can you draw about who is helped and who is hurt by unanticipated inflation?

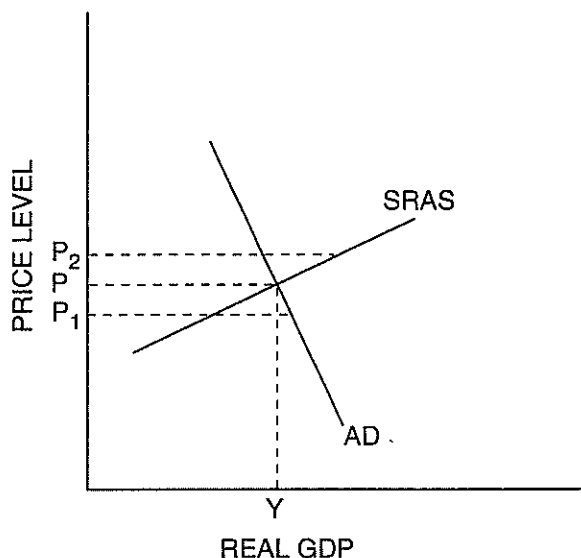
17. If you were certain that the inflation rate would be 10 percent a year for the next 10 years, how might your behavior change? Does your answer depend on who you are? Student? Worker?

Short-Run Equilibrium Price Level and Output

Part A Equilibrium



Figure 25.1
Equilibrium Price and Output Levels



1. What are the equilibrium price level and output? _____
2. What would eventually happen to the price level and output if the initial price level were P_2 rather than P ? Why would this happen?
3. What would eventually happen to the price level and output if the initial price level were P_1 rather than P ? Why would this happen?

Activity written by John Morton, National Council on Economic Education, New York, N.Y., and James Stanley, Choate Rosemary Hall, Wallingford, Conn.

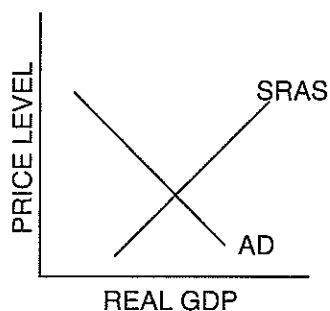
Part B

Changes in the Equilibrium Price Level and Output

For each situation described below, illustrate the change on the AD and AS graph and describe the effect on the equilibrium price level and real GDP by circling the correct symbol: ↑ for increase, ↓ for decrease, or — for unchanged.

4. Congress passes a tax cut for the middle class, and the president signs it.

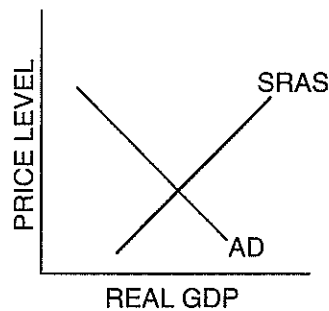
Middle Class Tax Cut



Price level: ↑ ↓ —
Real GDP: ↑ ↓ —

5. During a recession, the government increases spending on schools, highways and other public works.

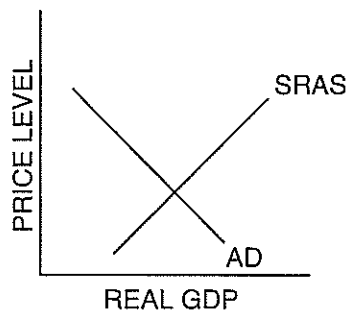
Increased Government Spending



Price level: ↑ ↓ —
Real GDP: ↑ ↓ —

6. New oil discoveries cause large decreases in energy prices.

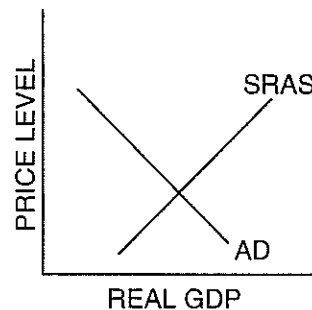
New Oil Discoveries



Price level ↑ ↓ —
Real GDP ↑ ↓ —

7. Illustrate the effects of an increase in aggregate demand.

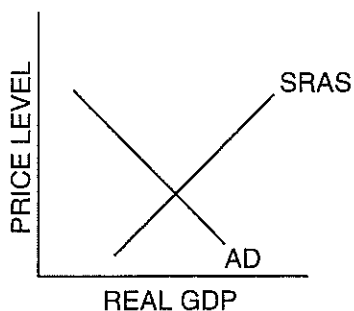
Effects of an Increase in AD



Price level ↑ ↓ —
Real GDP ↑ ↓ —

8. Illustrate the effects of increases in production costs.

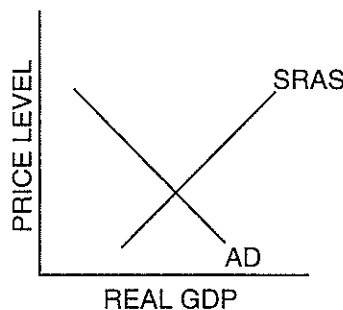
Effects of Increases in Production Costs



Price level	↑	↓	—
Real GDP	↑	↓	—

9. New technology and better education increase productivity.

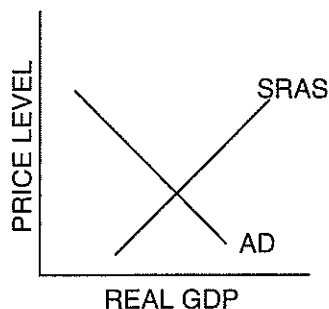
Effects of New Technology and Better Education



Price level	↑	↓	—
Real GDP	↑	↓	—

10. A new president makes consumers and businesses more confident about the future economy. Note: Show the change in AD only.

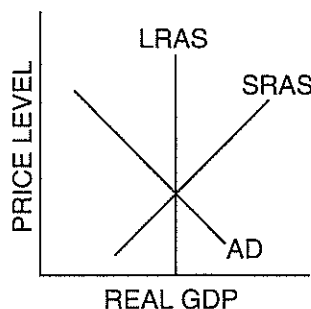
Increased Confidence for Future Economy



Price level	↑	↓	—
Real GDP	↑	↓	—

11. With the unemployment rate at five percent, the federal government reduces personal taxes and increases spending. Note: Show the change in AD only.

Reduced Taxes and Increased Government Spending



Price level	↑	↓	—
Real GDP	↑	↓	—

Part C

Summarizing Aggregate Demand and Aggregate Supply Shifts

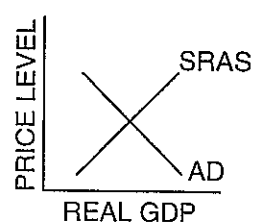
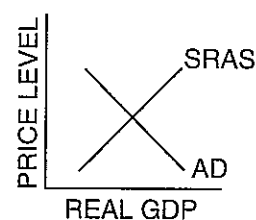
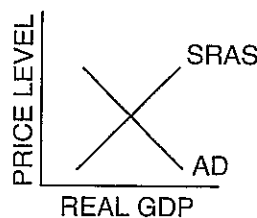
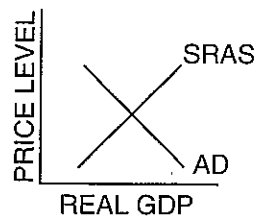
For each of the events below, make additions to the graph to illustrate the change. Then indicate the response in terms of shifts in or movements along the aggregate demand or aggregate supply curve and the short-run effect on real GDP and the price level. Indicate *shifts* in the curve by S and movements *along* the curve by A. Indicate the changes in price level, unemployment and real GDP with an up arrow for an increase and a down arrow for a decrease.

1. Increase in labor productivity due to technological change

2. Increase in the price of inputs used by many firms

3. Boom in investment assuming some unemployed resources are available

4. A major reduction in investment spending



AD Curve

AS Curve

Real GDP

Price Level

Unemployment

The Macroeconomic Model: Short Run to Long Run

In this activity we are working from the short run to the long run. The aggregate demand curve is downward sloping and the aggregate supply curve is upward sloping. The aggregate supply curve is upward sloping in the short run because of slow wage and price adjustments within the economy.

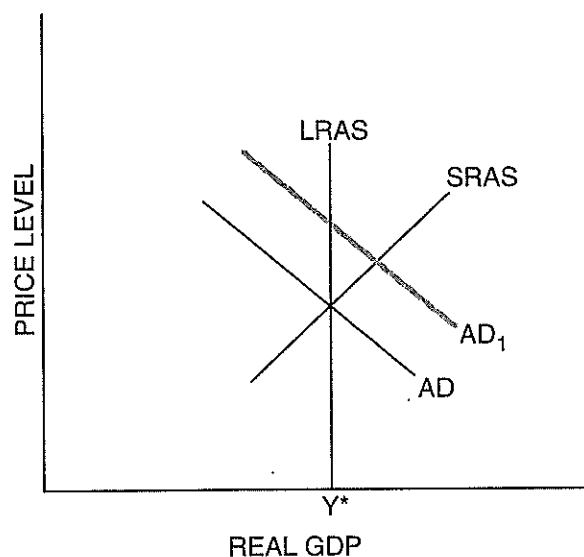
Part A

1. In the following graph, suppose the aggregate demand shifts from AD to AD_1 . How will the economy react over time? Assume that no monetary or fiscal policy is undertaken.



Figure 28.1

Increase in Aggregate Demand
Starting at Full Employment



- (A) What will happen to output in the short run? Explain.
- (B) What will happen to output as the economy moves to the long-run equilibrium? Explain.
- (C) What will happen to the price level? Explain.

Activity written by Rae Jean B. Goodman, U.S. Naval Academy, Annapolis, Md. Part B was written by Robert Nuxoll, Oceanside High School, Oceanside, N.Y.

(D) What will happen to wages? Explain.

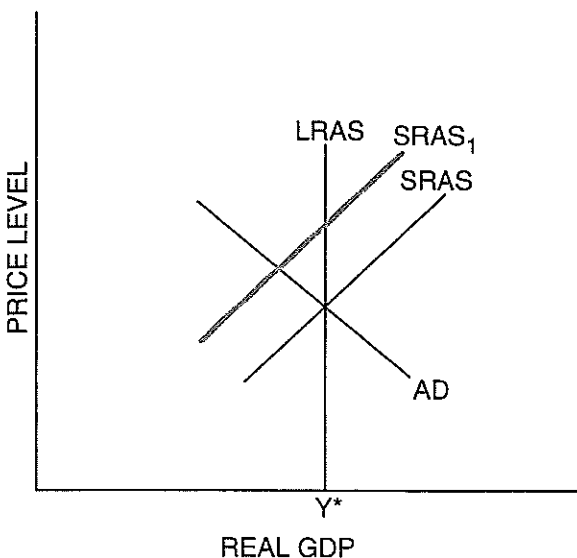
(E) In the graph, draw the shifts in AD and SRAS that you think will occur. Indicate the final aggregate demand and short-run aggregate supply curves by labeling them as AD_f and $SRAS_f$.

2. In the following graph, suppose the aggregate supply shifts from SRAS to $SRAS_1$. How will the economy react over time? Assume that no monetary or fiscal policy is undertaken.



Figure 28.2

Change in Short-Run Aggregate Supply



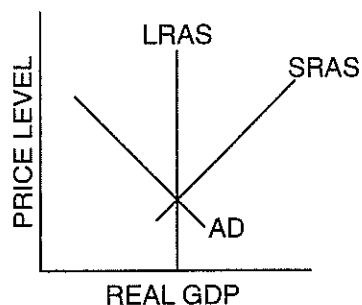
(A) What will happen to output in the short run? Explain.

- (B) What will happen to output as the economy moves to the long-run equilibrium? Explain.
- (C) What will happen to the price level? Explain.
- (D) What will happen to wages? Explain.
- (E) In the graph, draw the shifts in AD and SRAS that you think will occur. Indicate the final aggregate demand and short-run aggregate supply curves by labeling them as AD_f and $SRAS_f$.

Part B

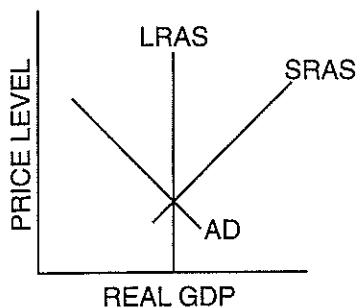
Read the description of each exogenous shock to aggregate supply and aggregate demand. Draw a new SRAS or AD curve that represents the change caused by the shock in the short run. Explain the reasons for the change in the graph, and then explain what happens in the long run if no stabilization policy is implemented. Identify the final AD curve as AD_f and the final SRAS curve as $SRAS_f$. If there is a change in LRAS, show the change and label the new curve $LRAS_f$.

3. The government increases defense spending by 10 percent a year over a five-year period.



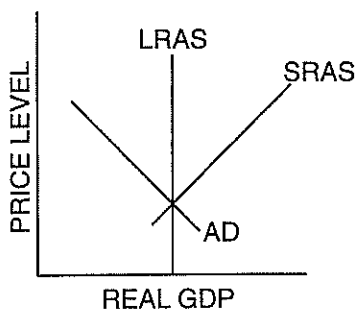
EXPLANATION:

4. OPEC cuts oil production by 30 percent, and the world price of oil rises by 40 percent.



EXPLANATION:

5. The government increases spending on education, health care, housing and basic services for low-income people. No increase in taxes accompanies the program.



EXPLANATION:

6. Can the government maintain output above the natural level of output with aggregate demand policy? If the government attempts to, what will be the result?

